

What is claimed is:

1. A surgical instrument for insertion through an endoscope having a handle and a working channel, said surgical instrument comprising:

a) a elongate flexible tubular sheath having proximal and distal ends;

b) a flexible shaft extending through and axially movable relative to the sheath, said shaft having proximal and distal ends;

c) an end effector coupled to or formed at said distal end of said shaft;

d) a first means coupled to said shaft for rotating said shaft relative to said sheath;

e) a second means for longitudinally moving said shaft relative to said sheath; and

f) a tubular member coupling said first and second means together.

2. A surgical instrument according to claim 1, wherein:
said end effector is a snare.

3. A surgical instrument according to claim 1, wherein:
said tubular member is flexible.

4. A surgical instrument according to claim 1, wherein:

said first means is located distal said second means.

5. A surgical instrument according to claim 1, wherein:

said tubular member has proximal and distal ends, and

said first means is a first handle including a first member and including a second member provided with a bore, said second member being axially rotatable relative to said first member,

said first member having a distal end fixedly coupled to said proximal end of said sheath and a proximal end coupled to said distal end of said tubular member,

said shaft extending through said bore, and said second member having means for engaging said shaft such that rotation of said second member relative to first member causes rotation of said shaft relative to said sheath.

6. A surgical instrument according to claim 5, wherein:

said shaft includes a key portion provided with a non-circular cross section, and said means for engaging said shaft is a non-circular cross section of said bore of said second member adapted to engage said key portion.

7. A surgical instrument according to claim 6, wherein:

said second member is provided with a tubular portion which extends at least partially into said proximal and distal ends of said first member, said tubular portion having said bore with said non-circular cross section.

8. A surgical instrument according to claim 7, wherein:

said tubular portion of said second member extends beyond said proximal and distal ends of said first member.

9. A surgical instrument according to claim 1,

wherein said second means for longitudinally moving said shaft relative to said sheath includes a first member having a throughbore and a distal end coupled to said proximal end of said tubular member, and a second member coupled to said shaft and movable relative to said first member to cause said shaft to move longitudinally relative to said sheath.

10. A surgical instrument according to claim 9, wherein:

said second member is longitudinally slidable relative to said first member.

11. A surgical instrument according to claim 1, wherein:

said shaft comprises a first element extending from said end effector to a location proximal said first means, and a second element extending from said location to said second member of said second means, said first and second elements being freely axially rotatable relative to each other.

12. A surgical instrument according to claim 11, wherein:

said first and second elements are coupled by a swivel joint.

13. A surgical instrument according to claim 11, wherein

said first element of said shaft is camber-free.

14. A surgical instrument according to claim 1, wherein:

said shaft is freely axially rotatable relative to said second means.

15. A surgical instrument according to claim 14, wherein:

said shaft is camber-free.

16. A surgical instrument according to claim 1, further comprising:

g) a first stiffening sleeve, wherein said sheath is coupled to said first means and said stiffening sleeve is provided over a portion of said sheath at or adjacent a coupling of said sheath to said first means.

17. A surgical instrument according to claim 16, further comprising:

h) a second stiffening sleeve provided over a portion of said tubular member at or adjacent a coupling of said tubular member to said first means.

18. A surgical instrument according to claim 1, further comprising:

g) means for providing a cautery current to said shaft.

19. A surgical instrument according to claim 1, further comprising:

g) mounting means for mounting said first means relative to the handle of the endoscope such that said sheath of said surgical instrument extends through the working channel of the endoscope.

20. A surgical instrument according to claim 18, wherein:

said mounting means is adapted to adjustably fix said distal end of said sheath relative to a distal end of the endoscope.

21. A surgical instrument for insertion through an endoscope having a handle and a working channel, said surgical instrument comprising:

a) a elongate flexible tubular sheath having proximal and distal ends;

b) a flexible shaft extending through and axially movable relative to the sheath, said shaft having proximal and distal ends;

c) an end effector coupled to or formed at said distal end of said shaft, said end effector capable of being positioned in open and closed positions; and

d) a handle including coupling means for coupling said handle to the endoscope handle, and further including,

i) first means for longitudinally moving said sheath relative said working channel of the endoscope,

ii) second means for longitudinally moving said shaft relative to said sheath such that said end effector is movable between open and closed positions determined by relative positions of said sheath and said shaft, and

iii) third means for axially rotating said shaft relative to said sheath.

22. A surgical instrument according to claim 21, wherein:

said end effector is a snare.

23. A surgical instrument according to claim 21, wherein:

said shaft is freely axially rotatable relative to said second means.

24. A surgical instrument according to claim 21, wherein:

said shaft includes a key portion provided with a non-circular cross section, and said third means includes means for engaging said key portion.

25. A surgical instrument according to claim 21, wherein:

said third means is located distal said second means, and said shaft comprises a first element extending from said end effector to a location proximal said third means, and a second element extending from said location to said second means, said first and second elements being freely axially rotatable relative to each other.

26. A surgical instrument according to claim 25, wherein:

said first and second elements are coupled by a swivel joint.

27. A surgical instrument according to claim 25, wherein

said first element of said shaft is camber-free.

28. A surgical instrument according to claim 21, wherein:

said shaft is freely axially rotatable relative to said third means.

29. A surgical instrument according to claim 28, wherein:

said shaft is camber-free.

30. A surgical instrument according to claim 21, further comprising:

e) means for providing a cautery current to said shaft.

31. A surgical instrument for insertion through an endoscope having a handle and a working channel, said surgical instrument comprising:

a) a elongate flexible tubular sheath having proximal and distal ends;

b) a flexible shaft extending through and axially movable relative to the sheath, said shaft having proximal and distal ends;

c) an end effector coupled to or formed at said distal end of said shaft;

d) a first means for rotating said shaft relative to said sheath;

e) a second means for longitudinally moving said shaft relative to said sheath; and

f) a means for fixedly coupling said surgical instrument relative to the handle of the endoscope.

32. A surgical instrument according to claim 31, wherein:
said end effector is a snare.

33. A surgical instrument according to claim 31, wherein:
said means for fixedly coupling includes a first portion couplable to the endoscope and a second portion coupled to said sheath and longitudinally adjustably fixable relative to said first portion, such that said sheath may be longitudinally adjusted relative to the working channel.

34. A surgical instrument according to claim 31, wherein:
said shaft is freely axially rotatable relative to said second means.

35. A surgical instrument according to claim 31, wherein:
said shaft includes a key portion provided with a non-circular cross section, and said first means includes means for engaging said key portion.

36. A surgical instrument according to claim 31, wherein:

said first means is located distal said second means, and said shaft comprises a first element extending from said end effector to a location proximal said first means, and a second element extending from said location to said second means, said first and second elements being freely axially rotatable relative to each other.

37. A surgical instrument according to claim 36, wherein:

said first and second elements are coupled by a swivel joint.

38. A surgical instrument according to claim 36, wherein

said first element of said shaft is camber-free.

39. A surgical instrument according to claim 31, wherein:

said shaft is freely axially rotatable relative to said second means.

40. A surgical instrument according to claim 39, wherein:

said shaft is camber-free.

41. A surgical instrument according to claim 31, further comprising:

e) means for providing a cauterizing current to said shaft.